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10/046,348	10/25/2001	Paul Johnson		2884

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EXAMINER

PEREZ GUTIERREZ, RAFAEL

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 12/03/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/046,348

Applicant(s)
Johnson et al.

Examiner
Rafael Perez-Gutierrez

Art Unit
2686



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 25, 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

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DETAILED ACTION

Priority

1. Applicant has complied with the conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because it does not identify the citizenship of each inventor, specifically the citizenship of inventor Kenneth Y. Tang has not been identified.

Drawings

3. The corrected or substitute drawings received on June 26, 2002 have been approved by the Draftsman.

Specification

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4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: --
**POINT-TO-POINT MILLIMETER WAVE COMMUNICATION SYSTEM WITH
TRACKING DISH ANTENNA--.**

Claim Objections

5. **Claims 1, 10, 12-15, 17-19, and 26** are objected to because of the following informalities:

- a) On **line 6 of claim 1**, insert --and-- after “less,”;
- b) On **line 9 of claim 1**, replace “condition,” with --conditions,--;
- c) On **line 1 of claim 10**, delete “and” before “further”;
- d) On **line 1 of claim 10**, replace “back-up” with --backup-- before “transceiver” in order to provide consistency with the recitation of “backup” in claims 11-14;
- e) On **line 2 of claim 10**, insert --and-- before “configured”;
- f) On **line 2 of claim 10**, insert --to-- after “configured”;
- g) On **line 1 of claims 12-14**, replace “Claim 12” with --Claim 11-- after “in” in order to provide proper dependency to said claims;
- h) On **line 1 of claims 15 and 17-19**, replace “Claim1” with --Claim 1-- after “in”;
- i) On **line 1 of claim 19**, replace “are” with --is-- after “transceiver”; and

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j) On line 3 of claim 26, replace "beam" with --beams-- before "having".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claims 1-9 and 15-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Foster, Jr. et al. (U.S. Patent # 6,016,313)** in view of **Green et al. (U.S. Patent # 6,307,523 B1)**.

Consider **claims 1-5 and 26**, Foster, Jr. et al. show and disclose a point-to-point millimeter wave communication system (figure 1 and column 5 lines 31-35) comprising:

a node 150, 151, or 152 (first millimeter wave transceiver system) (figures 1 and 4) located at a first site 110, 120, or 130, respectively, capable of transmitting to a second site 110, 120, or 130 through atmosphere digital information at rates in excess of 30 million bits per second (e.g., 1 billion bits per second) and receiving information from said second site 110, 120, or 130 at rates in excess of 30 million bits per second (e.g., 155 million bits per second) (column 2 lines 10-25 and 53-58), said node 150, 151, or 152 (first transceiver) comprising a dish antenna 420 (figure 4) producing a communication lobe (beam) having a beam width (half-power beam width) of approximately 2 degrees or less (e.g., 0.36 degrees) (column 15 lines 13-23); and

a node 150, 151, or 152 (second millimeter wave transceiver system) (figures 1 and 4) located at a second site 110, 120, or 130, respectively, capable of receiving from said first site 110, 120, or 130 digital information at rates in excess of 30 million bits per second (e.g., 155

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million bits per second) and transmitting information at rates in excess of 30 million bits per second (e.g., 1 billion bits per second) (column 2 lines 10-25 and 53-58), said node 150, 151, or 152 (second transceiver) comprising a dish antenna 420 (figure 4) producing a communication lobe (beam) having a beam width (half-power beam width) of approximately 2 degrees or less (e.g., 0.36 degrees) (column 15 lines 13-23).

It is considered that the transmission and reception at rates in excess of 30 million bits per second in Foster, Jr. et al. occurs under any weather condition.

However, Foster, Jr. et al. do not specifically disclose that the dish antennas are tracking dish antennas comprising a monopulse tracking system, a conical scan tracking system, or a sequential lobing tracking system.

Green et al. clearly show and disclose a tracking antenna apparatus 10, 10', 10", 10''' (figures 1-3 and 5) suitable for RF communications (e.g., millimeter wave communications) in which various techniques such as single channel monopulse (monopulse tracking system), conical scanning (conical scan tracking system), and sequential lobing (sequential lobing tracking system) are implemented for low cost tracking (column 1 lines 1-65 and column 6 lines 5-19).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the tracking antenna apparatus taught by Green et al. into the system of Foster, Jr. et al. in order to lower the implementation cost of the system of Foster, Jr. et al. by using the low cost tracking antenna apparatus of Green et al. in place of the dish antenna 420 used by Foster, Jr et al..

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Consider **claims 6-9**, and **as applied to claim 1 above**, Foster, Jr. et al., as modified by Green et al., clearly disclose that the system uses a carrier frequency in the millimeter wave-length frequency spectrum (i.e., extremely high frequency (EHF)) (column 2 lines 53-55, column 5 lines 18-22, and column 15 lines 15-23).

Therefore, it would have been clearly obvious to a person of ordinary skill in the art at the time the invention was made to slightly modify the system of Foster, Jr. et al. to specifically operate the system at frequencies greater than 57 GHz or 90 GHz or in the range of 92-95 GHz (e.g., transmit at 92.3-93.2 GHz, receive at 94.1-95.0 GHz) since these frequencies are extremely high and the fall in the millimeter wave-length frequency spectrum.

Consider **claims 15-18**, and **as applied to claim 1 above**, Foster, Jr. et al., as modified by Green et al., clearly disclose that the first site 110, 120, or 130, and the second site 110, 120, or 130 are separated by a significant physical distance (column 1 lines 12-16 and 61-64 and column 5 lines 31-35), consequently, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to slightly modify the system of Foster, Jr. et al. to specifically operate the system between sites that are at least 1, 2, 7, or 10 miles apart.

Consider **claim 19**, and **as applied to claim 1 above**, although Foster, Jr. et al., as modified by Green et al., only disclose bit error ratios of 10^{-6} for purposes of modulation (column 19 lines 13-23), a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the teachings of Foster, Jr. et al. to transmit and receive information at bit error ratios of less than 10^{-10} in order to ensure that the available spectrum is

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efficiently used.

Consider **claims 20-22, 24, and 25**, and **as applied to claim 1 above**, Foster, Jr. et al., as modified by Green et al., clearly disclose that the nodes 150, 151, and 152 are equipped with a parabolic dish antenna (e.g., prime focus or offset parabolic antenna) providing 42 dB of gain (column 15 lines 16-18). Although, Foster, Jr. et al. do not specifically disclose that the antenna provides a gain greater than 45 dB or 50 dB, a person of ordinary skill in the art at the time the invention was made would have clearly recognized that antennas providing such gain can be used in the system of Foster, Jr. et al. without significantly altering the layout of the system.

Consider **claim 23**, and **as applied to claim 22 above**, Green et al. clearly disclose that the tracking antenna apparatus 10, 10', 10", 10''' (figures 1-3 and 5) can be a Cassegrain antenna (column 6 lines 5-19).

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA

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1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. **Claims 1-20 and 23-26** are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over **claims 24, 29-41, and 43-46 of copending Application No. 09/992,251** in view of **Green et al. (U.S. Patent # 6,307,523 B1)**.

Consider **claims 1-5 and 26**, claims 24 and 46 of copending Application No. 09/992,251 basically claim the same invention except that the antennas are tracking dish antennas.

Green et al. clearly show and disclose a tracking antenna apparatus 10, 10', 10", 10''' (figures 1-3 and 5) suitable for RF communications (e.g., millimeter wave communications) in which various techniques such as single channel monopulse (monopulse tracking system), conical scanning (conical scan tracking system), and sequential lobing (sequential lobing tracking system) are implemented for low cost tracking (column 1 lines 1-65 and column 6 lines 5-19).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

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the invention was made to incorporate the tracking antenna apparatus taught by Green et al. into the network of claim 24 of copending Application No. 09/992,251 in order to lower the implementation cost of the network.

Consider **claims 6-20 and 23-25**, and as applied to **claim 1 above**, claims 29-41 and 43-45 of copending Application No. 09/992,251 respectively claim the same exact invention, therefore, they are not considered to be patentably distinct.

This is a provisional obviousness-type double patenting rejection.

10. **Claims 1-20 and 23-26** are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over **claims 1, 6-18, and 20-23 of copending Application No. 10/000,182** in view of **Green et al. (U.S. Patent # 6,307,523 B1)**.

Consider **claims 1-5 and 26**, claims 1 and 23 of copending Application No. 10/000,182 basically claim the same invention except that the antennas are tracking dish antennas.

Green et al. clearly show and disclose a tracking antenna apparatus 10, 10', 10", 10''' (figures 1-3 and 5) suitable for RF communications (e.g., millimeter wave communications) in which various techniques such as single channel monopulse (monopulse tracking system), conical scanning (conical scan tracking system), and sequential lobing (sequential lobing tracking system) are implemented for low cost tracking (column 1 lines 1-65 and column 6 lines 5-19).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

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the invention was made to incorporate the tracking antenna apparatus taught by Green et al. into the network of claim 1 of copending Application No. 10/000,182 in order to lower the implementation cost of the network.

Consider **claims 6-20 and 23-25**, and **as applied to claim 1 above**, claims 6-18 and 20-22 of copending Application No. 10/000,182 respectively claim the same exact invention, therefore, they are not considered to be patentably distinct.

This is a provisional obviousness-type double patenting rejection.

11. **Claims 1-19 and 26** are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over **claims 1-20 of copending Application No. 10/001,617**.

Consider **claim 1**, claim 1 of copending Application No. 10/001,617 basically claim the same invention except that the antennas are tracking flat panel antennas instead of tracking dish antennas.

Nonetheless, a person of ordinary skill in the art at the time the invention was made would have clearly recognized that such antennas can be used in the claimed system without significantly altering the layout of the system, therefore, claim 1 is not considered to be patentably distinct from claim 1 of copending Application No. 10/001,617.

Consider **claims 2-19 and 26**, and **as applied to claim 1 above**, claims 2-20 of copending Application No. 10/001,617 respectively claim the same exact invention, therefore,

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they are not considered to be patentably distinct.

This is a provisional obviousness-type double patenting rejection.

12. **Claims 1-26** are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over **claims 1, 4-20, and 22-25 of copending Application No. 10/025,127** in view of **Green et al. (U.S. Patent # 6,307,523 B1)**.

Consider **claims 1-5**, claim 1 of copending Application No. 10/025,127 basically claim the same invention except that the antennas are tracking dish antennas.

Green et al. clearly show and disclose a tracking antenna apparatus 10, 10', 10", 10''' (figures 1-3 and 5) suitable for RF communications (e.g., millimeter wave communications) in which various techniques such as single channel monopulse (monopulse tracking system), conical scanning (conical scan tracking system), and sequential lobing (sequential lobing tracking system) are implemented for low cost tracking (column 1 lines 1-65 and column 6 lines 5-19).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the tracking antenna apparatus taught by Green et al. into the system of claim 1 of copending Application No. 10/025,127 in order to lower the implementation cost of the network.

Consider **claims 6-26**, and as **applied to claim 1 above**, claims 4-20 and 22-25 of copending Application No. 10/025,127 respectively claim the same exact invention, therefore, they are not considered to be patentably distinct.

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This is a provisional obviousness-type double patenting rejection.

13. **Claims 1-26** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over **claims 1-12 and 14-23 of U.S. Patent No. 6,611,696 B2** in view of **Green et al. (U.S. Patent # 6,307,523 B1)**.

Consider **claims 1-5**, claim 1 of U.S. Patent No. 6,611,696 B2 basically claim the same invention except that the antennas are tracking dish antennas.

Green et al. clearly show and disclose a tracking antenna apparatus 10, 10', 10", 10''' (figures 1-3 and 5) suitable for RF communications (e.g., millimeter wave communications) in which various techniques such as single channel monopulse (monopulse tracking system), conical scanning (conical scan tracking system), and sequential lobing (sequential lobing tracking system) are implemented for low cost tracking (column 1 lines 1-65 and column 6 lines 5-19).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the tracking antenna apparatus taught by Green et al. into the system of claim 1 of U.S. Patent No. 6,611,696 B2 in order to lower the implementation cost of the system.

Consider **claims 6-26**, and as **applied to claim 1 above**, claims 2-12 and 14-23 of U.S. Patent No. 6,611,696 B2 respectively claim the same exact invention, therefore, they are not considered to be patentably distinct.

This is a provisional obviousness-type double patenting rejection.

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14. **Claims 1-26** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over **claims 1, 5-11, 13-19, and 21-27 of U.S. Patent No. 6,587,699 B2** in view of **Green et al. (U.S. Patent # 6,307,523 B1)**.

Consider **claims 1-5**, claim 1 of U.S. Patent No. 6,587,699 B2 basically claim the same invention except that the antennas are tracking dish antennas.

Green et al. clearly show and disclose a tracking antenna apparatus 10, 10', 10", 10''' (figures 1-3 and 5) suitable for RF communications (e.g., millimeter wave communications) in which various techniques such as single channel monopulse (monopulse tracking system), conical scanning (conical scan tracking system), and sequential lobing (sequential lobing tracking system) are implemented for low cost tracking (column 1 lines 1-65 and column 6 lines 5-19).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the tracking antenna apparatus taught by Green et al. into the system of claim 1 of U.S. Patent No. 6,587,699 B2 in order to lower the implementation cost of the system.

Consider **claims 6-26**, and as **applied to claim 1 above**, claims 5-11, 13-19, and 21-27 of U.S. Patent No. 6,587,699 B2 respectively claim the same exact invention, therefore, they are not considered to be patentably distinct.

This is a provisional obviousness-type double patenting rejection.

15. **Claims 1-11, 15-19, and 22** are provisionally rejected under the judicially created

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doctrine of obviousness-type double patenting as being unpatentable over **claims 1-3, 5, 7-9, 11-16, 18, and 20 of copending Application No. 10/061,872** in view of **Green et al. (U.S. Patent # 6,307,523 B1)**.

Consider **claims 1-5**, claim 1 of copending Application No. 10/061,872 basically claim the same invention except that the antennas are tracking dish antennas.

Green et al. clearly show and disclose a tracking antenna apparatus 10, 10', 10", 10''' (figures 1-3 and 5) suitable for RF communications (e.g., millimeter wave communications) in which various techniques such as single channel monopulse (monopulse tracking system), conical scanning (conical scan tracking system), and sequential lobing (sequential lobing tracking system) are implemented for low cost tracking (column 1 lines 1-65 and column 6 lines 5-19).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the tracking antenna apparatus taught by Green et al. into the system of claim 1 of copending Application No. 10/061,872 in order to lower the implementation cost of the network.

Consider **claims 6-11, 15-19, and 22**, and **as applied to claim 1 above**, claims 2, 3, 5, 7-9, 11-16, 18, and 20 of copending Application No. 10/061,872 respectively claim the same exact invention, therefore, they are not considered to be patentably distinct.

This is a provisional obviousness-type double patenting rejection.

16. **Claims 1-11, 15-19, and 22** are provisionally rejected under the judicially created

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doctrine of obviousness-type double patenting as being unpatentable over **claims 1-3, 5, 7-9, 11-16, 18, and 20 of copending Application No. 10/127,886** in view of **Green et al. (U.S. Patent # 6,307,523 B1)**.

Consider **claims 1-5**, claim 1 of copending Application No. 10/127,886 basically claim the same invention except that the antennas are tracking dish antennas.

Green et al. clearly show and disclose a tracking antenna apparatus 10, 10', 10", 10''' (figures 1-3 and 5) suitable for RF communications (e.g., millimeter wave communications) in which various techniques such as single channel monopulse (monopulse tracking system), conical scanning (conical scan tracking system), and sequential lobing (sequential lobing tracking system) are implemented for low cost tracking (column 1 lines 1-65 and column 6 lines 5-19).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the tracking antenna apparatus taught by Green et al. into the system of claim 1 of copending Application No. 10/127,886 in order to lower the implementation cost of the network.

Consider **claims 6-11, 15-19, and 22**, and **as applied to claim 1 above**, claims 2, 3, 5, 7-9, 11-16, 18, and 20 of copending Application No. 10/127,886 respectively claim the same exact invention, therefore, they are not considered to be patentably distinct.

This is a provisional obviousness-type double patenting rejection.

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Conclusion

17. Any response to this Office Action should be **faxed to (703) 872-9306 or mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Hand-delivered responses should be brought to

Crystal Park II
2021 Crystal Drive
Arlington, VA 22202
Sixth Floor (Receptionist)

18. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Rafael Perez-Gutierrez whose telephone number is (703) 308-8996. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700 or call customer service at (703) 306-0377.

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A handwritten signature in black ink, appearing to read 'Rafael Perez-Gutierrez', is written over the printed name.

Rafael Perez-Gutierrez
R.P.G./rpg **RAFAEL PEREZ-GUTIERREZ**
PATENT EXAMINER

November 29, 2003